

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are presently active in this case. The present Amendment amends Claims 1-4, 6-16; and adds Claims 17-20.

The outstanding Office Action rejected Claims 1 and 9 under 35 U.S.C. § 102(b) as being anticipated by Burhans et al. (U.S. Patent No. 5,542,625). Claims 1-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Burnelli (U.S. Patent No. 1,987,050) in view of Burhans et al. and Daude (U.S. Patent No. 4,457,479).

Initially, Applicant respectfully requests that the reference listed on the Form 1449 filed June 4, 2004 be acknowledged as having been considered in the next Office Action. Applicant further respectfully requests that the references cited in the *parent* application (S.N. 10/313,052) be indicated as having been considered in the next Office Action, as required by MPEP 609 and 2001.06(b).¹

In order to clarify Applicant's invention, independent Claims 1, 9, and 13 are amended to recite an aircraft including a fuselage, two wings protruding laterally from opposite sides of the fuselage, and a tail unit extending aft from the fuselage. The claims are further amended to recite a step of adjusting control surfaces on the wings and the tail unit. These features find non-limiting support in the disclosure as originally filed, for example at page 4, lines 9-13; at page 10, lines 8-10, and from page 10, line 21 to page 11, line 6 with corresponding Fig. 4. In order to vary the scope of protection recited in the claims, new Claims 17-20 are added. New Claims 17-20 find non-limiting support in the disclosure as

¹ MPEP 2001.06(b) states "If the application under examination is identified as a continuation, divisional, or continuation-in-part of an earlier application, the examiner will consider the prior art cited in the earlier application. See MPEP 609. The examiner must indicate in the first Office action whether the prior art in the related earlier application has been reviewed. Accordingly, no separate citation of the same prior art need be made in the later application."

originally filed, for example at page 5, lines 16-20 and at page 10, lines 8-20. Therefore, the changes to the claims are not believed to raise a question of new matter.²

In response to the rejections of Claims 1-16 under 35 U.S.C. § 102(b) and 35 U.S.C. §103(a) and in light of the present amendment to the independent claims, Applicant respectfully requests reconsideration of these rejections and traverses the rejections as discussed next.

Briefly recapitulating, Applicant's invention, as recited in Claim 1, relates to a method of controlling a landing guide path of an aircraft including a fuselage, two wings protruding laterally from opposite sides of the fuselage, and a tail unit extending aft from the fuselage. The method includes the step of adjusting control surfaces on the wings and tail unit. The method further includes a step of rotating a portion of an aerodynamic component connected to an outboard wingtip of each of the two wings to increase a drag without influencing a lift.

Turning now to the applied prior art, the Burhans et al. patent discloses an aircraft having a gull wing with ailerons movably mounted at the trailing edges of the wing for controlling pitch, yaw and roll, or having a wing and a gull tail with flaps movably mounted at the trailing edges of the tail surface for controlling pitch, yaw and roll. However, the Burhans et al. patent fails to teach a step of rotating a portion of an aerodynamic component *connected to an outboard wingtip of each of its wings*. Furthermore, the Burhans et al. patent fails to teach an aerodynamic component which is rotated to *increase a drag without influencing a lift*. Therefore, the Burhans et al. patent fails to teach or suggest every feature recited in Applicant's claims, so that Claims 1-20 are patentably distinct over the Burhans et al. patent. Accordingly, Applicant respectfully traverses, and requests reconsideration of, the rejection based on the Burhans et al. patent.³

² See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

³ See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found,

The outstanding obviousness rejection based on the combination of the Burhans et al., Burnelli, and Daude patents is respectfully traversed, as discussed next. The shortcomings of the Burhans et al. patent are discussed above and are not repeated here. The Burnelli patent discloses an "all-wing tailless" airplane with vertical rudders 14 on the tips of the single wing. The Burnelli patent fails to teach an aircraft with a tail unit extending aft from the fuselage and thus fails to teach a step of adjusting control surfaces on a tail unit, as recited in Applicant's claims. On the contrary, a central concept in the Burnelli patent is the "tailless" aspect of the aircraft. Furthermore, while the Burnelli vertical rudders 14 provide "lateral control,"⁴ *an increase in drag* without influencing a lift does not "necessarily flow" from such lateral control.⁵ In fact, the Burnelli aircraft "possesses a minimum of drag inducing features."⁶ Therefore, the Burnelli patent fails to teach an aerodynamic component which is rotated to *increase a drag without influencing a lift*, as recited in Applicant's claims.

The Daude patent was cited by the outstanding Office Action "to show that main bodies are well known in the art." The Daude patent discloses an aircraft with winglets mounted so as to be movable on the wing tips. The Daude winglets, however, do not rotate to *increase a drag without influencing a lift*. In fact, the Daude winglets are configured to increase lift.⁷ Therefore, even if the combination of the Burhans et al. and Burnelli, and

either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

⁴ See Burnelli, at column 2, lines 37-39.

⁵ See MPEP 2112: "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic," (emphasis in original). See also In re Robertson, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill,'" citing Continental Can Co. v. Monsanto Co., 948 F2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991); and "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient," Id. at 1269 (citation omitted)).

⁶ See Burnelli, at column 1, lines 1-6.

⁷ The Daude patent, at column 2, lines 3-27.

Daude patents is assumed to be proper, the combination fails to teach every element of the claimed invention.⁸

Applicant further respectfully traverse the obviousness rejection because there is no evidence of record for the required motivation to modify an aircraft with a tail unit by incorporating aerodynamic components connected to outboard wingtips of the wings and with rotating portions to increase a drag without influencing a lift.⁹ While the Burnelli patent may have provided a reason for using vertical rudders on the wings in a tailless airplanes, the Burnelli patent would have failed to suggest why a person of ordinary skill in the art would have been motivated to incorporate such a feature in an airplane having a tail unit that already provides lateral control. In particular, the Burnelli patent uses its vertical rudders in order to provide lateral control in the absence of a tail vertical rudder, or some other component providing such control. The Burnelli patent, however, would not have suggested that vertical rudders on the wings would have been beneficial on an aircraft with a vertical rudder on its tail, or which already provides lateral control with other components.

In addition, none of the other references of record is concerned with increasing drag without influencing lift using components on wingtips. The prior art of record, therefore, does not provide the motivation to perform the modification of an aircraft with a tail unit to arrive at Applicant's claimed method. While the required evidence of motivation to combine need not come from the applied references themselves, the evidence must come from

⁸ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

⁹ See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . Conclusive statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

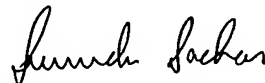
somewhere within the record.¹⁰ Without such motivation and absent improper hindsight reconstruction,¹¹ a person of ordinary skill in the art would not have been motivated to perform such modification. Furthermore, the position that prior art aircraft can be modified to arrive at the claimed method would be insufficient to establish a *prima facie* case of obviousness.¹²

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-20 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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¹⁰ *In re Lee*, 277 F.3d 1338, 1343-4, 61 USPQ2d 1430 (Fed. Cir. 2002) ("The factual inquiry whether to combine references ... must be based on objective evidence of record. ... [The] factual question of motivation ... cannot be resolved on subjective belief and unknown authority. ... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion").

¹¹ See MPEP 2141, stating, as one of the tenets of patent law applying to 35 USC 103, that "[t]he references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention."

¹² See MPEP 2143.01 stating that the "fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness"; see also same section stating "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so,'" (citation omitted).